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# COLLEGE GEOGRAPHY AND ITS RELATION TO TEACHER TRAINING IN SECONDARY SCHOOL GEOGRAPHY

## Second Report of Committee on Standards of Certification for the Teaching of Geography in High Schools*

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To: University and College Administrators, Professional Educators, and Geographers.

FROM: The High School Geography Standards Committee of the National Council of Geography Teachers.

A Memorial Proposing an Adjustment of College Geography Training to Fit the Needs of Modern Higher Education, with Particular Reference to Secondary Teacher Training. (Based on a national survey of the college geography situation as of February 1945.)

*Grateful acknowledgement is due Miss Lillian Peters who ably assisted in the tabulation and organization of the questionnaire data for this report.

Copies of this report may be had for twenty-five cents each to cover cost of handling. Requests should be addressed to the Chairman of the Standards Committee.

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## I. PUTTING OUR GEOGRAPHY HOUSE IN ORDER

All over the nation today there is a widespread enthusiasm and demand for the development of geographic literacy in the public schools. Geography, however, is one of the most difficult subjects to teach because of the special technique required to make it meaningful, and because of the special training in regional synthesis required on the part of those who would teach it.

Thus, any hope for better geographic education in America must be predicated upon the need for professional training for present and prospective geography teachers. Obviously, the liberal arts colleges, universities, teachers colleges, and normal schools hold the key to this problem. The facts presented in the following pages are drawn from a detailed survey of American institutions of higher learning. They reveal a surprising situation, to say the least.

It is obvious that it is up to the universities, colleges, and normal schools to provide the facilities for training geography teachers to meet the rising standards of secondary school certification. If this is not done, the whole emerging program of secondary school geography will quickly be discredited.

Large numbers of colleges and universities indicate that they are making, or contemplate making, program changes in relation to geography. The purpose of this professional paper is to present certain definite recommendations which will serve as a guide in developing a sound college geography program, wherein secondary school teachers can be trained. These, if followed, should appreciably decrease the geographic illiteracy which has characterized our American educational system. We hope that America is on the eve of a geographic renaissance, and that this report may serve to further it materially.

> Now is the time to begin really to teach the American people geography. Apart from rather backward nations, we are more illiterate geographically than any civilized nation I know. . . . Young people have stopped studying geography in about the seventh or eighth grade of the common school, if they got that far, and for the most part they were taught geography up to that time by teachers who stopped studying geography at about the same time in their school courses. . . . So I would recommend that in some way throughout the secondary schools and in the colleges and universities a real emphasis now be laid upon acquainting the American citizens with the realities of the world through intensive courses in world geography. It is in these *later years* [italics ours] of the educational scheme that the students have achieved the maturity necessary to the understanding of this important subject.

The presidents of our higher institutions of learning attend-

ing the National Conference of College and University Presidents held at Baltimore several years ago will recall this now oft-quoted significant statement by John W. Studebaker, U. S. Commissioner of Education, who addressed the conference.[1]

College administrators may have since wondered what to do about this problem of geographic illiteracy. Professional educators and geographers likewise have pondered this question for some time and have expressed themselves in favor of rendering more than lip-service towards rectifying the problem.

The present paper on college geography, together with the previously published Professional Paper No. 6 on secondary school geography, is our answer to the above challenge.

As with other areas of education posing similar problems, it is well to explore first of all the instructional conditions actually existing in the field of geography on the higher levels of education. This was done by means of a questionnaire addressed to the registrars of nearly all the Liberal Arts and Science colleges and universities in the United States. As far as practicable, the data are presented cartographically to give a state by state as well as a national picture of the situation.

College administrators, professional educators, and geographers want to know whether facilities for geography teaching at the college level are adequate to meet the modern demands for a geographically sound general education and teacher training program. Is the number of colleges offering geography adequate? How many courses are normally offered? What percentage of schools are equipped to provide a teaching minor or major; a subject-matter minor or major? What percentage are equipped for research work in geography?

What is the relation between a college geography curriculum and a geography teacher training program? What percentage of the schools offer a professional course in the "Teaching of Geography for the Secondary School"?

Answers are sought to questions as to the percentage of schools

[1] One of the basic American misconceptions of geography seems to be that it is inherently an elementary subject. This no doubt accounts in large part for the incompetence of the average American citizen to think of social, economic, and political problems in terms of the "realities of the world," as referred to by Dr. Studebaker These "realities of the world" consist not simply of place name locations on a map but a consideration of how such places enter into the strategy of peoples and destinies of nations in peace and war.

having a separate department of geography, geography sharing departmental title with another subject, and geography taught in departments without departmental status of any kind. Inquiry is made into the trend of divisional affiliation of geography in relation to the natural and social science fields.

What effect have the special training programs for the armed forces had upon college geography? What curricular changes have been noted in the development of geography since 1941-42? What plans are institutions now actually considering as regards introducing or improving college geography organization and instruction in the near future?

What recommendations has the Standards Committee to offer for the development of a sound college geography program? What can school officials do to help put our geography house in order?

The interest college authorities have shown in these and other related questions is revealed by the unexpectedly large percentage of returns of the questionnaire and the extra information, comments, or suggestions supplied beyond the answer to direct questions. A number of these take the form of special letters.

Requests have already been made for a report on our survey:

"A copy of your findings would be most appreciated by me."

". . . would appreciate a copy of the findings of your investigation."

"The dean of the college is interested in information regarding trends or demand for the subjects."

"We should like to have suggestions from you as to content of courses, materials needed, etc."

"As a member of the committee concerned with post-war plans, I should welcome literature relative to the importance of courses in geography for the Liberal Arts College."

This present report is the general answer to these and other requests.

## II. The National Council of Geography Teachers Faces the Challenge to Eliminate Geographic Illiteracy in American Education

A brief retrospect of what has already been done by this committee in attempting to raise the standards of American geographic education may serve to show the relationship of our present paper to the previous one.

At its meeting in Baton Rouge, Louisiana, on December 27, 1940, the National Council of Geography Teachers resolved to appoint a committee to set up minimum standards for high school

teachers of geography comparable to the standards in other secondary subjects.

### A. *The Program of the Standards Committee for Teacher Training*

The Standards Committee has since formulated a geography master standards pattern under the title "Standards of Certification for the Teaching of Geography in High Schools."[2] Reprints of this professional paper have now been distributed to some eleven thousand professional educators. Special requests are currently received for additional copies. The reprint has received press recognition by a number of education journals.

As indicated in our annual committee report published in the JOURNAL OF GEOGRAPHY,[3] the reaction to our effort to promote secondary school geography teaching standards is one of enthusiastic encouragement. We quote the following pertinent comment:

> Most educators are conscious of the appalling lack of geographic knowledge prevalent among our armed forces and the general public, and are giving much lip-service to what they think should be done to correct this deficiency. However, I trust that action will be taken and that some geographic courses are actually incorporated in the curricula of the secondary schools before the war is over and our interest in foreign lands begins to lag and we settle back to our old opinion of geography. . . . In order to gain a position of respect for geography and to increase the effectiveness of geography teaching in our high schools in the United States, we must demand that the subject be handled by "trained" geographers. The Standards of Certification is a big step forward in the right direction.[4]

### B. *The Program of the High School Geography Curriculum Committee*

It was, however, recognized by the Standards Committee that the elevation of teacher training certification standards alone would not solve the high school geography deficiency situation; but that, in addition, we needed "a comprehensively organized four-year program of high school geography offerings to meet the present-day accelerated demands of geographic understanding of world problems." The National Council accordingly approved the Standards Committee's recommendation for the appointment of a special curriculum committee "to provide such high school geography cur-

[2] The paper was published as Professional Paper No. 6 in the JOURNAL OF GEOGRAPHY, February, 1943, Vol. 42, No. 2, pp. 41-58. Reprints of same may be had gratis by addressing the chairman of this committee.

[3] Issue of February, 1945, Vol. XLIV, No. 2, pp. 45-49.

[4] L. Merle Smuck, Geography, Junior High School Supervisors, Department of Education, Baltimore, Maryland.

ricular program and pedagogical aids as seem expedient to conform to the most recent trends in educational theory and practice.''

This committee was subsequently appointed by the president of the Council, Floyd F. Cunningham, with Henry F. Becker, as chairman. Its preliminary contributions were published in the JOURNAL OF GEOGRAPHY.[5]

## III. AN ADEQUATE HIGH SCHOOL PROGRAM PRESUPPOSES AN ADEQUATE COLLEGE TEACHER TRAINING PROGRAM

The success of both the Geography Teacher Standards Certification and of the High School Geography Curriculum program is predicated upon adequate college geography curricula.

The success of the high school geography curriculum will depend in a large measure upon the type of geographic training possessed by the teacher. This training must be provided by the colleges and universities of one type or another. The thesis of this paper raises the question: Is the status of American college geography such as to insure the type of geographic training sought under the desired secondary teacher certification requirements?

It is obvious that only insofar as college geography organization and offerings are prepared to meet the standards of certification recommended can we expect the certification requirement to function.

The following comment received by the chairman from a director of teacher certification in response to the Committee's recommendation of the Geography Master Standards Pattern is to the point:

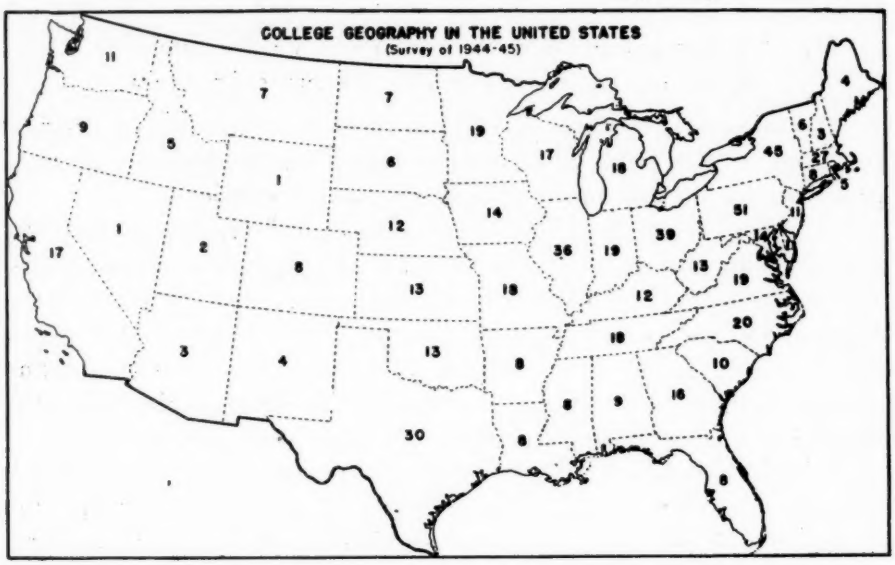
> Until the offering of geography becomes much more common in colleges than at present, we should almost eliminate our supply of teachers, if we recognized geography [that is, if we demanded geography training as a prerequisite for teaching the subject].

## IV. ORGANIZATIONAL AND FUNCTIONAL STATUS OF COLLEGE GEOGRAPHY AS REVEALED BY THE QUESTIONNAIRE SURVEY

In originally recommending higher standards for secondary geography teacher training, the Committee was not unaware of the fact that the college geography situation in many quarters of the United States was little better than the situation in the high school itself. Lacking statistics at the time, however, as to the exact status of college geography, no comments were made regarding it in the Standards report. A survey based on a questionnaire

[5] Issues of February, 1945, Vol. 44, No. 2, pp. 51-79, and of March, 1945, Vol. 44, No. 2, pp. 105-125.

submitted to college registrars of some 850 liberal arts colleges, teacher training institutions (or normals), and universities thruout the United States has since been conducted. This includes practically all the four-year colleges in the United States. Questionnaire reports have been returned and tabulated from 653 institutions,




MAP 1. The number of institutions in each state reporting on the status of college geography as of the period from July 22, 1944, to February 14, 1945.

or nearly 77 per cent of the institutions, distributed by states as shown on Map 1.

In all the data on the succeeding maps the denominator of the fraction represents the number of institutions in the state returning the questionnaire; the numerator, the number of institutions to be counted in the category indicated in the map caption. For example, on Map 2, out of the eleven schools in the state of Washington which returned the questionnaire, two reported they offered a course in the Teaching of Geography for the Secondary School.

It is not contended that the survey presents an exact picture of the status of geography state by state as represented in the statistics on the accompanying outline maps. It is obvious that anything short of an absolutely complete census cannot represent accurately the college geography organization and offerings in any one state. It is recognized that additional returns from any one

state, especially from such as have only a small institutional representation, as in the West, might change certain ratios appreciably. However, for such a wide sampling as this, it is believed that the statistics as shown represent a fairly reliable estimate of what conditions are like in the states and in the nation at large.

We may reasonably assume that if an absolutely complete inventory would show a different condition from that pictured on the maps it would probably show a less favorable rather than a more favorable state of affairs. For example, it is more likely that a questionnaire would not be returned from an institution having no geography than from one in which geography is a strong department. Moreover, among those institutions which did not return the questionnaire, the small ones predominate over the large, and it is in these that geography generally is the weakest.

### A. *College Course Offerings in Geography*

#### 1. The General Curriculum

We may logically first of all inquire, what is the status of college offerings in geography? How many courses does the average college offer? What percentage of the colleges are prepared to offer the minimum training for prospective high school teachers of geography as recommended in the "Geography Master Standards Pattern"? In what percentage of the colleges can a student qualify for a college subject-matter minor or teaching minor in geography; for a college subject-matter major or teaching major; for graduate work?

These questions seem very pertinent at a time when college administrators, teacher certificators, and geographers are seeking to bring the college geography offerings in line with modern general education and special teacher training requirements.

From an examination of catalogs of such institutions as head the list of colleges in enrollment and endowment—the "Big Ten" type —one is likely to get an altogether wrong impression of the status of college geography offerings thruout the country. In these large schools, of course, geography is often as strong as most other departments, in faculty, in course offerings, and in enrollment. One school reports as many as 55 courses. Others severally report 43, 40, 36, 35, 32, 30, and 27 courses. Two offer 26, and five offer 25 courses each.

But this top sampling is probably more misleading for determin-

NUMBER OF INSTITUTIONS IN EACH STATE OFFERING THE NUMBER OF COLLEGE GEOGRAPHY COURSES (INCLUDING GRADUATE COURSES) AS INDICATED IN THE SEVERAL COLUMN READINGS

| State | None | 1 | 2–4 | 5–9 | 10–14 | 15–19 | 20–24 | 25 or More Courses |
|---|---|---|---|---|---|---|---|---|
| Alabama | | 2 | 2 | 2 | | 3 | | |
| Arizona | | | 1 | | 2 | | | |
| Arkansas | | | 4 | 2 | | 1 | | |
| California | 5 | 4 | 4 | 1 | | 1 | | 1 |
| Colorado | 1 | | 3 | 1 | | | 1 | 1 |
| Connecticut | 2 | 1 | 5 | | | | | |
| Delaware | | | 1 | | | | | |
| Florida | | 1 | 1 | 5 | | | | 1 |
| Georgia | 8 | 5 | | 3 | | | | |
| Idaho | 1 | 1 | 1 | 1 | 1 | | | |
| Illinois | 10 | 3 | 10 | 6 | 1 | 2 | 2 | 3 |
| Indiana | 1 | 1 | 11 | 1 | 1 | 2 | 1 | |
| Iowa | | 5 | 5 | | 3 | 1 | | |
| Kansas | | 3 | 7 | | 1 | 2 | | |
| Kentucky | | 1 | 5 | 4 | 1 | 1 | | |
| Louisiana | | 3 | 1 | 2 | 2 | | | |
| Maine | | 1 | 3 | | | | | |
| Maryland | 6 | 2 | 2 | 2 | | 1 | | 1 |
| Massachusetts | 4 | 7 | 3 | 6 | 2 | | | 2 |
| Michigan | 1 | 5 | 4 | 2 | | 3 | 2 | 1 |
| Minnesota | 6 | 3 | 2 | 2 | 4 | 2 | | |
| Mississippi | | 2 | 4 | 1 | 1 | | | |
| Missouri | 2 | 3 | 3 | 5 | 2 | 3 | | |
| Montana | 2 | 2 | 2 | 1 | | | | |
| Nebraska | 1 | 2 | 2 | 2 | 3 | 1 | | 1 |
| Nevada | | | 1 | | | | | |
| New Hampshire | | | 1 | 2 | | | | |
| New Jersey | 3 | 2 | 2 | 1 | 3 | | | |
| New Mexico | | 1 | 2 | 1 | | | | |
| New York | 11 | 8 | 17 | 5 | | | 1 | 1 |
| North Carolina | 1 | 1 | 12 | 1 | 3 | | | 1 |
| North Dakota | 1 | 1 | 1 | 2 | 1 | 1 | | |
| Ohio | 1 | 8 | 15 | 6 | 2 | 5 | 2 | |
| Oklahoma | | 3 | 5 | | 4 | 1 | 1 | |
| Oregon | 3 | | 2 | 3 | | | 1 | |
| Pennsylvania | 8 | 12 | 14 | 2 | 8 | 3 | 1 | 2 |
| Rhode Island | 3 | | 1 | | 1 | | | |
| South Carolina | 4 | 2 | 2 | 2 | | | | |
| South Dakota | 1 | 2 | 1 | 1 | 1 | | | |
| Tennessee | 1 | 5 | 9 | | 3 | 1 | | |
| Texas | 5 | 9 | 5 | 3 | 5 | | | |
| Utah | | 1 | | | | | 1 | |
| Vermont | | 2 | 1 | 1 | | | | |
| Virginia | 7 | 4 | 5 | 1 | 1 | | 1 | |
| Washington | 2 | 4 | | | 2 | 1 | 1 | 1 |
| West Virginia | | 1 | 5 | 3 | 2 | 2 | | |
| Wisconsin | 4 | 3 | 1 | 1 | 3 | 2 | 1 | 1 |
| | 105 | 126 | 188 | 84 | 63 | 39 | 16 | 17 |

ing the general status of college geography than a similar analysis would be for most other standard college subjects. A tabulated classification of the number of college geography offerings is accordingly presented herewith, an analysis of which should give us an approximate answer to the questions raised above.

We observe first of all that, in spite of the tremendous recent emphasis on geographic education, up to February, 1945 (the closing period of our questionnaire circulation), there were still 105 colleges—over 16 per cent of the institutions of higher learning replying to our questionnaire—which did not offer as much as a single course in geography. In a sizeable number of the educationally more advanced states, the proportion of institutions offering no geography at all ranges all the way from 24 to 43 per cent.

Another 126 institutions offer only one course in geography (probably most commonly an Economic Geography course) and 188 offer from two to four courses. *Thus there are over 300 institutions, besides the 105 mentioned above, or a grand total of over 400, which are not prepared to meet normal requirements for a geography college minor, or teaching geography minor, which commonly is put at 15 semester hours.*[6] If this is correct, then these limited offerings barely meet even the teacher subject training standards for the social science teacher as recommended in the Geography Master Standards Pattern. *Approximately 60 per cent of our institutions then fail to offer this "minimum standard" type of geographic training.*

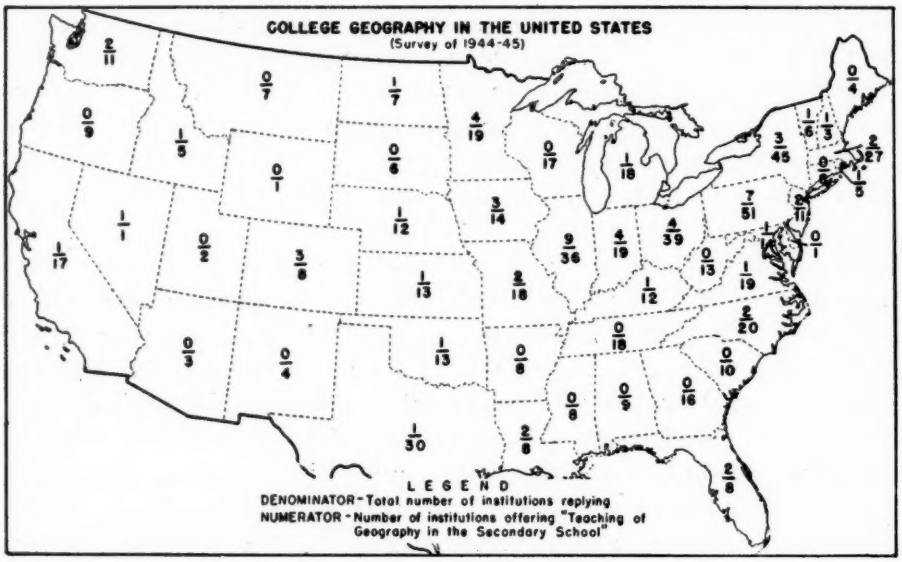
From 5 to 9 courses may be considered essentially a "minor" program with the bare possibility of stretching the hours into a major in such cases where the courses yield as much as 24 or more semester hours credit. Only in about one-third of our colleges (219) would it be possible to get this "minor." If we advance to the rank of institutions offering from 10 to 14 courses, colleges which we might say are definitely equipped for strong geography majors, then we must eliminate another 84 schools. There would now be only 137 in which such training is available, or about 20 per cent. There are 39 institutions which reported from 15 to 19 courses, 16 with 20 to 24 courses, and 17 with 25 courses or more. In these latter groups, of course, stand those higher institutions which carry on active programs in advanced graduate work, leading to the master's and doctor's degrees in geography. Excellently equipped as

[6] For purposes of expediency, the number of courses rather than credit hours was the basis for inquiry as to the status of course offerings. Most geography courses seem to be offered on a three-hour basis (some only two; a few as many as four or five). Making allowances for this variable as well as the fact that some colleges operate on the semester, others (probably smaller number) on the quarter system, it probably is fair to consider three semester hours as a normal average for undergraduate course offerings.

these institutions may be in preparing teachers for the secondary schools (except possibly lacking in some cases the professional teacher training course in geography), these colleges may not always be so geographically situated as to make it convenient for secondary school teachers to get their "minimum" geographic training there.

### 2. Status of the Professional Course "Teaching of Geography for the Secondary School"

Map 2 shows that only 66 out of the 653 colleges and universities responding stated that a course was given in The Teaching of


COLLEGE GEOGRAPHY IN THE UNITED STATES
(Survey of 1944-45)
LEGEND
DENOMINATOR - Total number of institutions replying
NUMERATOR - Number of institutions offering "Teaching of Geography in the Secondary School"

MAP 2. The ratio of institutions offering "Teaching of Geography in the Secondary School."

Geography for the Secondary School. Altho 91 of the higher institutions have a separate geography department, 99 a joint title geography department, and 364 have geography courses taught in non-geography departments, only 66, we repeat, offer a professional course in the teaching of secondary school geography. The reporting institutions from 18 states show no such course offering in such states at all. In less than half of the states (22), of the

institutions reporting, only one or two institutions in each state offer such training. In only five of the states does the proportion of such institutions rise from 25 to 38 per cent. For the over-all national picture as revealed by the maps, only about one college in ten offers this aspect of professional training.

If, moreover, there is no local high school provision for practice-teacher training in secondary school geography, or if the critic teacher himself, who supervises practice teaching, has had only one or two courses in geography—a common occurrence—or even no geography at all, then it is not surprising that geographic secondary school instruction does not measure up to the standards of other fields.

It is understandable that, so long as secondary school administrators and state certificators were not promoting geographic education on the secondary school level, there would be little or no demand for this type of training. However, since secondary school educators now have indicated a widespread national enthusiasm for geographic literacy, it behooves the college administrators and geographers to supply this need.

Whatever college geographers as individuals may think of the merit of a special secondary teacher training course in geography, the fact remains that professional courses are offered in other secondary fields less difficult to teach than geography. It should be recognized that geography is one of the most difficult secondary school subjects to handle in view of the special technique necessary to use it as an integrating base for unifying the social studies program.

A quotation from one of the letters received from an educator emphasizes this point:

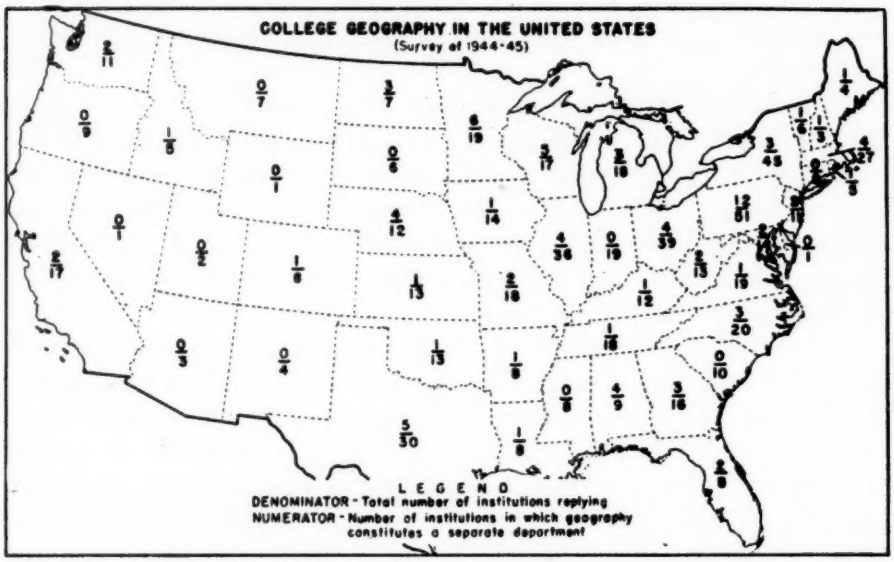
> The most difficult and the most urgent part of the program to achieve is the training of teachers in teacher training institutions. Prospective teachers will need to be trained in a unified social studies approach to geography.

It is obvious, of course, that no amount of professional course training in itself will guarantee successful geography teaching. Certificating agencies and geographers will encourage prospective high school geography teachers to have a full major background in geographic subjects, or at least insist on the minimum subject preparation as recommended in the Geography Master Standards Pattern of Professional Paper No. 6.

### *B. Departmental Organization*

#### 1. Separate Department of Geography

Apparently only about 14 per cent of the colleges offer geography in a separately organized and administered department under the single title of geography. According to data shown on Map 3 as many as 13 states are without representation altogether in this category. The percentage of institutions with a separate geography department ranges from 5 to 9 in seven states; from 10 to 14 in


COLLEGE GEOGRAPHY IN THE UNITED STATES
(Survey of 1944-45)
LEGEND
DENOMINATOR - Total number of institutions replying
NUMERATOR - Number of institutions in which geography constitutes a separate department

MAP 3. The ratio of institutions in which geography constitutes a separate department.

eight states; from 15 to 19 in nine states; from 20 to 24, from 25 to 29, from 30 to 34 in three states each, and from 40 to 44 in two states.

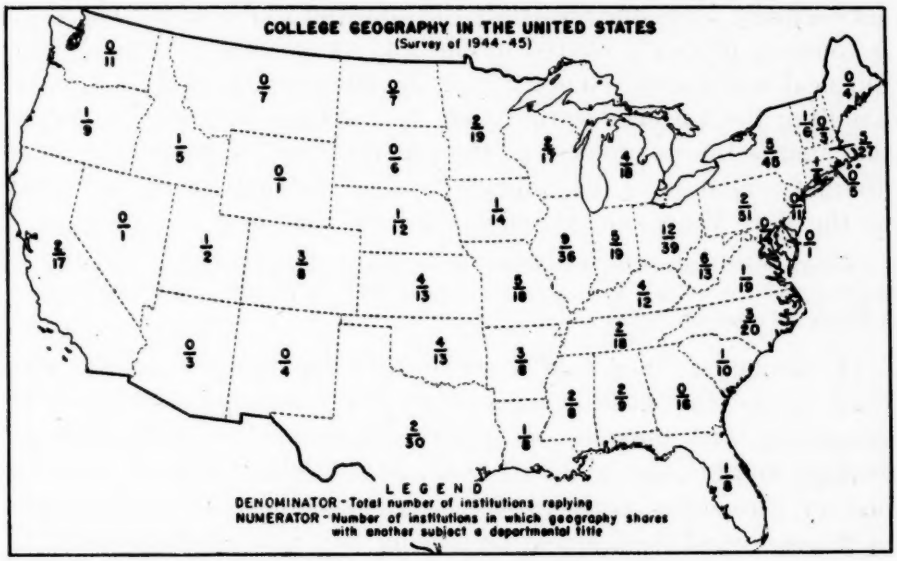
Summarized in another way, in nearly half of the states the percentage of institutions with a separate geography department ranges from 20 down to as low as 5, and in less than one-fourth of the states does the percentage range as high as 20 to 44. Only in five states does it appear that as many as one-third of the institutions have a separate geography department (see Map 3).

#### 2. Geography Sharing Joint Departmental Title with Another Subject

Geography in association with other subjects forming one de-

partment was reported from 99 of the 653 institutions returning the questionnaire. The proportionate distribution is shown on Map 4.

The compound departmental titles indicate the greatest diversity of combinations imaginable, in kind of subject, number of subjects, and order of subject title relationships. The list herewith submitted shows 11 different subject associations with 19 different types of combinations—science, earth science, geology, mineralogy, paleontology, mathematics, history, political science, economics,


COLLEGE GEOGRAPHY IN THE UNITED STATES
(Survey of 1944-45)
LEGEND
DENOMINATOR - Total number of institutions replying
NUMERATOR - Number of institutions in which geography shares with another subject a departmental title

MAP 4. The ratio of institutions in which geography shares with another subject a department title.

sociology, drafting, and industry. The dominant title is "Geology and Geography," over half (52) of the institutions being of this character. The next most common title is "Geography and Geology," with a representation of 23 schools. "Geology, Mineralogy, and Geography," "History and Geography," and "Sociology, Economics, and Geography," each appear twice. The rest are each recorded once as follows:

Geology, Geography, and Drafting
Geography and Earth Science
Science, Mathematics, and Geography
Science, Geography, and Mathematics
Geology, Geography, Mineralogy, and Paleontology

Government and Geography
History, Government, and Geography
Economics and Geography
Economics, Geography, and Political Science
Economics, Geography, and Sociology
Economics, Sociology, History, and Geography
History, Political Science, and Geography
Economics, Sociology, and Geography
Geography and Industry

The varied title combinations of geography, while impressive, are not surprising. The nature of geographic subject matter cuts across many fields and naturally the material which geography uses is common property shared in one way or another by most of the physical and social sciences. It is the philosophy or technique of handling the material rather than in the type of material per se that marks the uniqueness of the contributions of geography as a distinct academic or disciplinary field of instruction. A statement by the War Manpower Commission is to the point:

> Geographers analyze the significance of location and distribution in the study of physical and cultural phenomena, and interpret these distributions in terms of their influence on economic, social and political development.

It is obvious then that a prospective high school teacher will want to see the close connection of the facts and principles of geography with those of, let us say, the natural sciences, such as geology and biology, and with those of the social sciences, such as history, economics, political science, and sociology. By taking work in these several disciplines the teacher will possess the necessary academic background to correlate and integrate the facts of the environments to the best advantage, and see world problems in true perspective.

However, we question the academic soundness of the administrative status of college geography as indicated above,—the number of institutions with geography as a secondary subject title component being almost as great as the number having a separate department. This may have been justified in the days when geography was still a rather poorly organized field and confined largely to the purely physical and economic aspects of the subject. But probably no other field in recent years has undergone more transformation than has geography, with the rapidly multiplying courses in anthropological, social, economic, regional, historical, and political geography. A mere half-dozen courses, then, offered incidentally to other major offerings in a compound title department hardly

satisfy the rapidly advancing secondary school teacher training requirements and other modern professional standards for geography service.

But it is not so much in the fewer number of geography courses usually offered by the joint department as the "manner" in which they are likely to be taught, which would appear to be a critical factor in preparing secondary school teachers of geography. It would be interesting to know just what proportion of instructors teaching geography courses in a joint title department are actually trained as geographers. This question seems highly relevant to the situation. The High School Geography Standards Committee has appealed to the secondary school educator, administrator, and certificator that essentially the same standards of teacher training be set up for the secondary school teacher of geography as are set up for the teaching of other standard high school subjects, such as history and economics. It seems only reasonable that our standards of college geography teacher qualifications would be put on the same comparable basis of proficiency. Yet it is a well-known fact that many college instructors now teaching geography have had little or no formal training in the field, and this condition naturally would occur more frequently in compound than in single geography title departments.

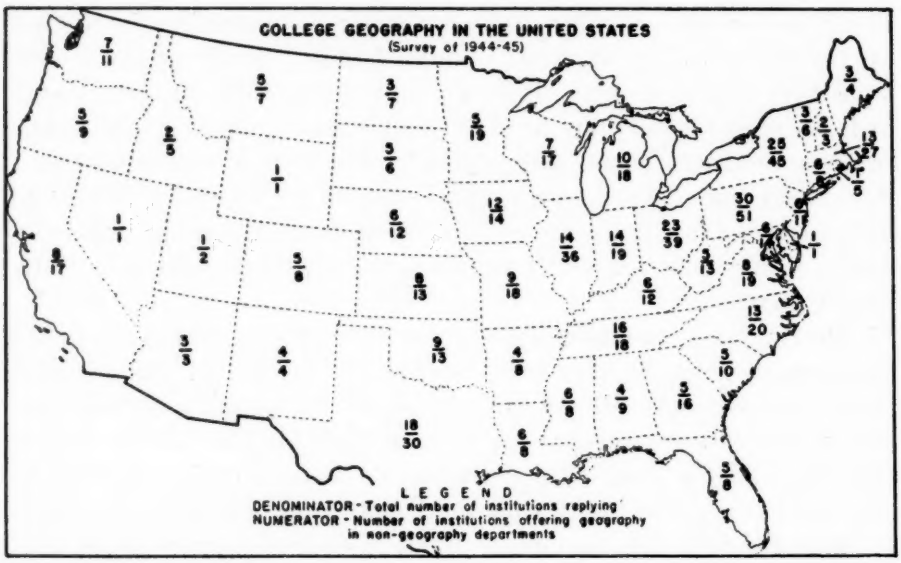
Sharing joint partnership with another subject might not prove functionally so ineffective for geography on the whole if geography shared equal responsibility in the administration of its curriculum. The statistics show this is not the case. As indicated above, in less than half of the joint-title departments is geography mentioned first, and it is quite likely that the word order is a pretty reliable guide to the headship and chief function of the department. If this is true, then the position of geography is secondary, and for its equipment and staff geography must rely then upon the judgment and responsibility of the non-geographic member. This may be quite satisfactory in such cases where the administrative head recognizes the increasing role that modern geography plays today in education, and who then is willing or even anxious to take the geographic staff into his confidence and see to it that proper staff and facilities for geographic instruction are provided.

All too often, unfortunately, such dual relationships have resulted in retarded development of geography as compared with the departments in institutions where geography is by itself. It is

obvious that if a prospective teacher of secondary school geography is to qualify for a position demanding discretion in the purchase of maps and other geographic equipment, then such a person must have had experience in evaluating such teaching aids in the college where he has received his professional training. The acquaintance with minerals, rocks, fossils, and topographic maps alone will not satisfy a satisfactory secondary school geography teaching requirement.

### 3. Geography Offered in Departments in which "Geography" Does Not Appear as Part of the Departmental Title

Where geography is not a title part of any department, but is offered as a single or multiple course subject under departments


COLLEGE GEOGRAPHY IN THE UNITED STATES
(Survey of 1944-45)
LEGEND
DENOMINATOR - Total number of institutions replying
NUMERATOR - Number of institutions offering geography in non-geography departments

MAP 5. The ratio of institutions offering geography in non-geography departments.

of other titles (see Map 5), the greatest diversity of geographic curriculum pattern exists. The following generalizations may be noted:

a. The most common occurrences of geography offering under this extra-geography arrangement is a single geography course offering.

b. The course typically is Economic Geography taught by the Department of Economics, Commerce, or Business Administration.

c. The next highest ranking non-geography department offering

a geography course or courses is listed as the Social Science Department.

d. Next in order of importance is the Education Department, stressing geography courses largely in elementary school education.

e. Following this is another group of subjects in which geography has still a rather impressive representation—Science (Physical Science, Natural Science), Geology, and History.

f. In a few institutions geography is offered in Political Science, Biology, Government and International Relations, Sociology, Agriculture, Engineering, and Humanities. These are only about one-fifth as common as those in the preceding group. In the following departments geographic offerings were noted in each only once: Art, Health and Physical Education, Library Science, Secretarial Science, Modern Language, Foreign Trade, and the Classics.

g. The distribution pattern of geography courses as divided among different departments occurs most commonly in the combination of the Economics Department and the Geology Department. Otherwise the greatest variability obtains, of which the following combinations are a few examples, as noted from replies from various colleges:

Economic Geography in Economics Department; Principles of Geography in Education.

Geography of Air Age in History or Education Department; Maps and Weather in Physics Department.

One Course in Department of Economics; one in Department of Government.

Four in Geology, one in Economics, and Sociology.

Physical Science and Social Science.

Economic Geography in Department of Economics and Business Administration; Area Geography in the Department of Modern Languages.

Economic Geography in Social Science; World Geography in Education.

Anthropology, Biology, Economics, Geology, Physics—courses under these heads

Where no single or compound geography department exists, we certainly cannot expect a strong geography program either for secondary school geography teacher training or any other type of professional geography training. As pointed out in Professional Paper No. 6, modern geography is a philosophy, a science, and an art of its own. It calls for an intimate acquaintanceship with a catalog of environmental facts as extensive as the earth itself. It demands, moreover, the ability to think of these facts in the form of regional and resource relationships (principles) which are unique to geographic thinking. And so professional training in the

field cannot be "picked up" as a side line to other disciplines in college any more than can a teacher in the high school be expected to qualify for geography teaching who has not had professional training in the field. Yet apparently we are attempting to do just that sort of thing in an overwhelmingly large number of our colleges, as is shown in Map 5.

In five of the states the reporting institutions indicate that in all cases such geography as is taught is offered in non-geographic departments, whether of the simple or compound types. In three of the states the percentage of such departments runs as high as 81 to 90; in six, from 71 to 80; in seven, from 61 to 70; in another seven from 51 to 60; in fourteen, from 41 to 50; in four, from 31 to 40. Only in two of the states do the promiscuous offerings drop to as low as 26 and 20 per cent.

Now it must be recognized that local conditions may justify offering geography in "outside" departments. Colleges with a very small total enrollment may find this necessary. However, it should be noted that even here there would be no more justification for a non-geographically trained teacher to teach geography than for a non-history trained teacher to teach history.

In other cases there may be separate colleges in a large university where certain geography courses are actually taught to advantage in separate administrative units. When taught by professionally trained geographers in all cases, obviously this may be quite sound, even highly desirable. However, it would seem academically indefensible to have a well equipped and fully staffed department of professionally trained geographers, offering a comprehensive geographic curriculum, and yet in the same school have a course, say, like Economic Geography, taught in a different department by a non-geographer. Such conditions actually exist.

After all, economic geography is not a science of the values of goods, but the science of their areal distribution or regional patterns based upon geographic factors—a concept which constitutes the core of the entire geographic philosophy and curriculum. Consistently classified then, economic geography is not intrinsically economics any more than historical geography is history, or political geography is political science. The close academic relationships of all these subjects, of course, is obvious, but each calls for its own distinctive emphasis and points of view in explaining environmental phenomena and human relationships thereto.

A frequent by-product of the type of organization of the college curriculum where there is no geography head, or where there is otherwise little geographic administrative authority, is the impression often created on the secondary school level of instruction that geography is nothing more than economic geography. It is not surprising, therefore, that, until the war taught us otherwise, this was a prevalent view among the high school curriculum builders. And so it is not surprising either, if a high school teacher had training in a single course in Economic Geography—and this probably taught by a non-geographically trained college teacher—that such training was considered sufficient for the teacher of geography in the high school.

It is the function of the special High School Geography Curriculum Committee referred to earlier to point the way to a secondary school program of geography which includes not only a sound course in the geonomic but also geo-social and geo-political phases of environment-man relationships.

It is the function of the Geography Master Standards Pattern, suggested by The Standards Committee, to point to the need of a teacher training program in a geographic area of subjects broad enough to prepare the secondary school teacher to meet the needs of geography training in the secondary school.

And finally, it would seem to be the function of teacher-training institutions to provide the range of courses needed to meet the rising standards of secondary school certification and to provide professional college geographers to train our prospective teachers of geography. Any other program is bound to discredit college geography just as high school geography has failed in many quarters to make its importance felt, even failing to survive in some schools because it was "farmed out" to anyone volunteering to teach it regardless of professional preparation in the subject. Experiences in connection with supplying geographic instruction by non-geographers in special training programs for the armed forces is further evidence of the pedagogical unsoundness of this procedure. The following experience and observation may be quoted as illustrative of this point:

> Colleges, at least small ones, have not been interested in teaching geography. Very few instructors know anything about it. The only reason for interest here was the fact that in the Army Air Corps Unit we had to "teach" geography. We put the following people teaching it: Professor of ——, Professor of ——, Professor of ——. . . .

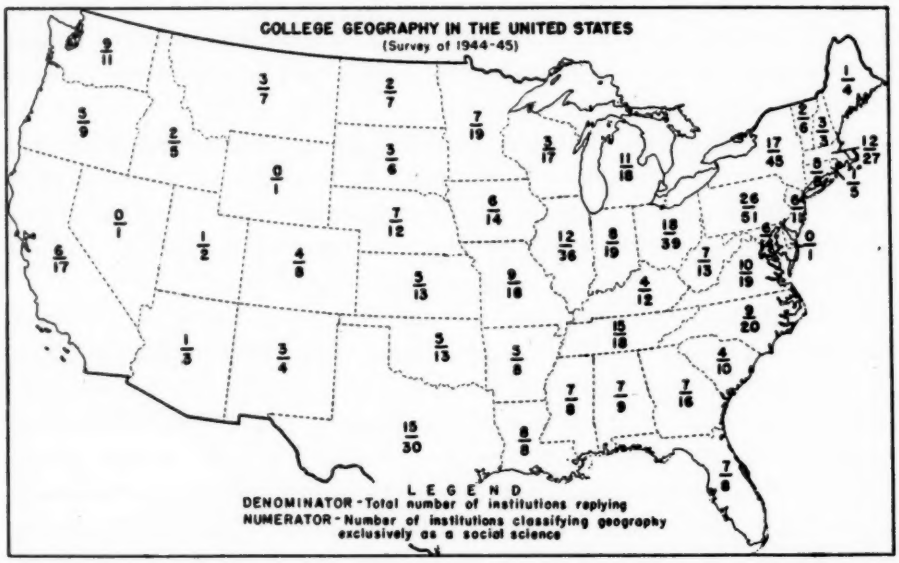
None knew much about it as you might infer. Professor of ——— was interested and studied the field and did a fair job.

I think a concerted effort should be made to get some courses or at least elements of geography in the curriculum of colleges.

The intrinsic value of the content of any course and the disciplinary value of any area of instruction cannot rightfully be judged under makeshift circumstances such as those to which we had to resort to in the war emergency program.

### C. *Divisional Affiliation and Classification of College Geography*

Once the college administrator has decided that college geography should be on the same professional standards of teaching and

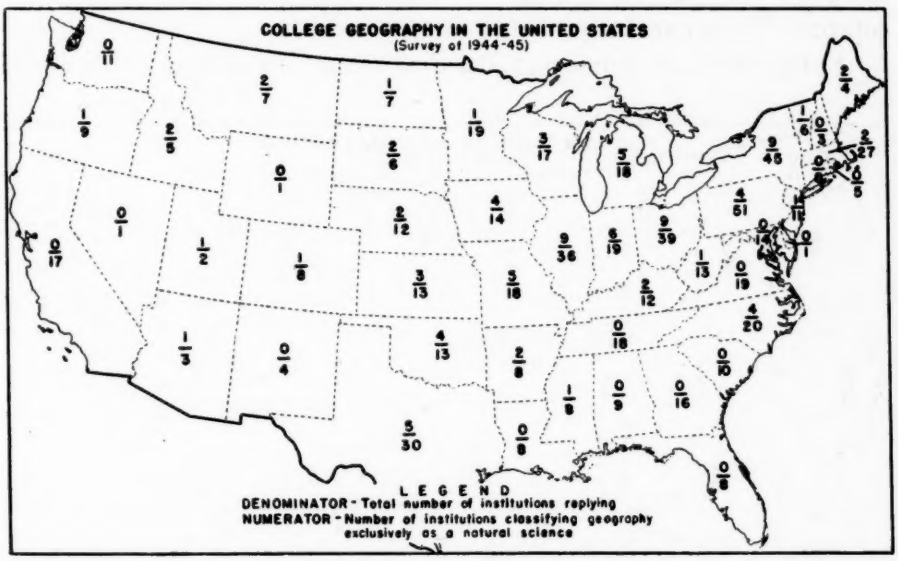

COLLEGE GEOGRAPHY IN THE UNITED STATES
(Survey of 1944-45)
LEGEND
DENOMINATOR - Total number of institutions replying
NUMERATOR - Number of institutions classifying geography exclusively as a social science

MAP 6. The ratio of institutions classifying geography exclusively as a social science.

research as are other standard college subjects, and that this ordinarily can be established best where there is a separate geography department or at least a separate geographic departmental jurisdiction over curricula, the next question of administrative importance seems to be "Under what academic divisional set-up will geography function best to serve its own needs as well as the requirements of the high school geography teacher training program?"

However differently several of the courses in a geography department may classify—some emphasizing the physical; others, the

human elements of the environment—the philosophy and objectives of modern geography are definitely recognized by most geographers to be essentially anthropocentric in character. On the secondary school level of education this anthropocentric orientation seems to have been functionally more fully realized than on the college level, where its original departmental association with geology has long kept geography geocentrically oriented.[7] However, there has been a strong tendency during recent years for the college geogra-


COLLEGE GEOGRAPHY IN THE UNITED STATES
(Survey of 1944-45)
LEGEND
DENOMINATOR - Total number of institutions replying
NUMERATOR - Number of institutions classifying geography exclusively as a natural science

MAP 7. The ratio of institutions classifying geography exclusively as a natural science.

phy offerings and organization to veer more and more in the direction of social science classification and affiliation without sacrificing the physical base of the science, so that today nearly 62 per cent of the 504 colleges, which have replied on this point, indicate an exclusively social science classification (see Map 6). The remaining 38 per cent are divided almost equally between those which classify geography as exclusively natural science (Map 7) and those which classify geography in part as social science and in part as natural science (Map 8). The exact wording of this part of the questionnaire was:

[7] As reported in our Professional Paper No. 6 (p. 17), returns from a survey of twenty-nine representative state departments of education indicate that 84 per cent of the states classify high school geography as a social science, 10 per cent as a commercial subject, and only 6 per cent as a natural science.

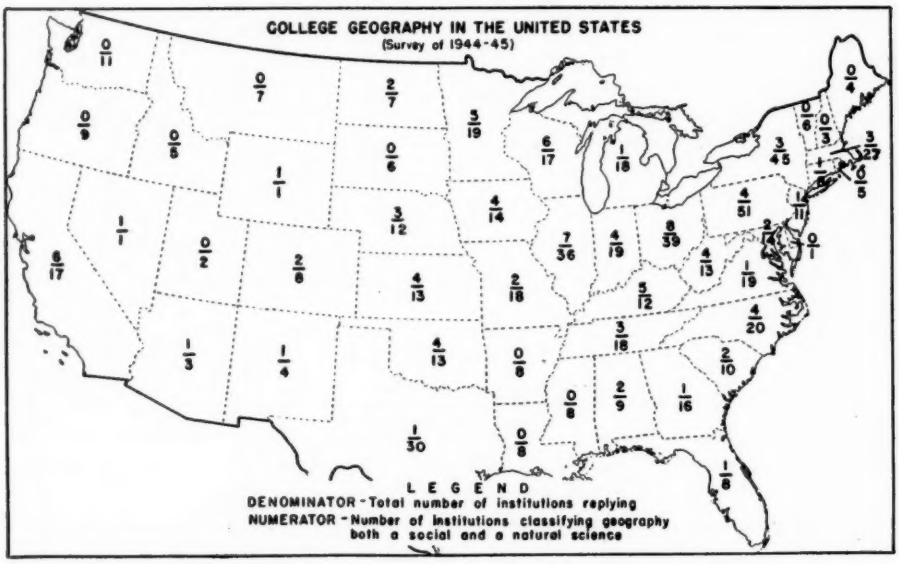
1. Separate Department of Geography is part of the Division of the Social Sciences and all its offerings are accredited towards meeting Social Science requirements for graduation. Or

2. Separate Department of Geography is part of the Division of Natural Science and all of its offerings are accredited towards meeting Natural Science requirements for graduation. Or

3. If part of the geography offerings is classified as "Social" and part as "Natural," please indicate the manner of division.

The state by state distribution ratios of the several classification categories are shown in Maps 6, 7, and 8, and the reader might well compare them carefully.[8]

Fortunately, it appears, then, that the newer college geography


COLLEGE GEOGRAPHY IN THE UNITED STATES
(Survey of 1944-45)
LEGEND
DENOMINATOR - Total number of institutions replying
NUMERATOR - Number of institutions classifying geography both a social and a natural science

MAP 8. The ratio of institutions classifying geography as both a social and a natural science.

orientation of courses and organization of curricular affiliations reflect a growing recognition of the fact that if geography is to perform its most useful function in citizenship and teacher training, it must ally itself more and more with those departments which deal with societal, cultural, and governmental relationships, such as history, economics, political science, sociology, anthropology, and

[8] Data of this type do not always lend themselves to absolute certainty of interpretation and classification; it is believed, however, that the several categories as mapped are fairly representative of the over-all picture of classification conditions.

social psychology. In doing so, of course, geography will always want to keep its own subject matter well rooted in the basic elements of the physical environment without which the world patterns of cultural realities are meaningless. It will so train prospective high school teachers of geography for geography *per se* and for geography as part of the social studies that they will be led to see the futility of attempting geographic correlations without the proper background of the physical base. This latter deficiency seems to be one of the patent weaknesses of high school geography teaching, particularly in the social studies.

## V. Prospective Innovations or Changes in College Geographic Organization and Instruction in the Near Future

Probably no subject in the high school and college curricula has felt more incisively the impact of war influences on changes in educational policies than has geography.

The special geography courses introduced for the training of the armed forces are probably as much responsible as any other influence for awakening educators to the need of more and better geographic instruction in our schools. Here are sample statements:

> The requirements of the Army Specialized Training Program in Geography made us conscious of the fact that the course offerings in geography were inadequate.
>
> Full courses offered in Army Engineers courses are aiding me to make geography more practical.

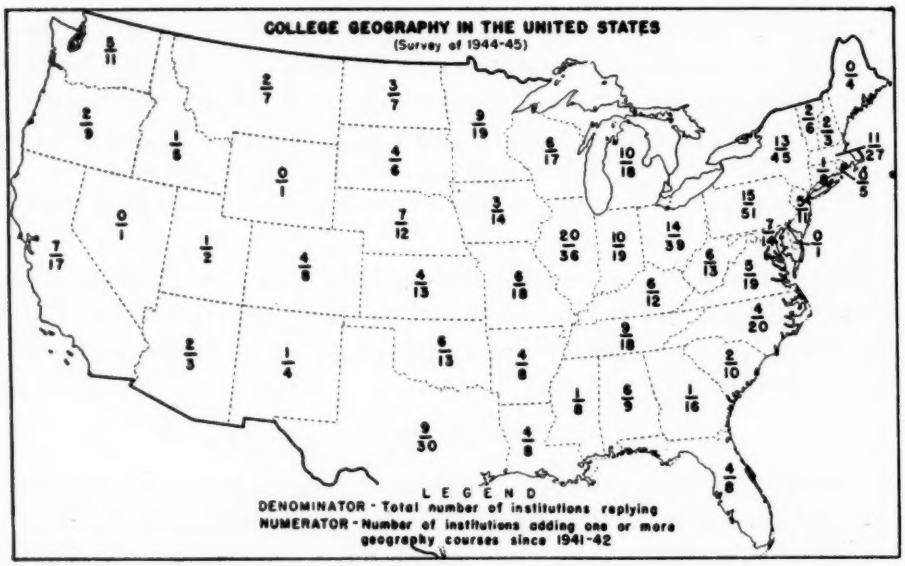
Educators and government officials have vied with each other to secure adequately trained staffs to fill strategic positions. This situation provokes speculation on the prospective future status of the geography educational program.

### A. *Recent Trends, Since 1941-42*

A survey of the recent past may be of some help to envision the near future of geography. Map 9 exhibits regional data on the number of institutions in each state which have added new geography courses since 1941-42. Of the total of 658 schools returning the questionnaire, 244, or over 37 per cent, indicated additions. In one-third of the states over half of the institutions (50 to 67 per cent) have introduced added offerings. The following table lists the number of schools in which two or more geography courses have been added:

| Number of Schools Reporting Addition of Geography Courses since 1941-42 | Number of Geography courses added since 1941-42 |
|---|---|
| 65 | 2 |
| 32 | 3 |
| 15 | 4 |
| 17 | 5 |
| 2 | 6 |
| 2 | 7 |
| 3 | 8 |
| 3 | 9 |
| 1 | 10 |
| 1 | 11 |
| 2 | 13 |
| 1 | 15 |
| 1 | 16 |
| 1 | 25 |

The schools with the larger number of additions either represent already well established geography departments in large uni-


COLLEGE GEOGRAPHY IN THE UNITED STATES
(Survey of 1944-45)
LEGEND
DENOMINATOR - Total number of institutions replying
NUMERATOR - Number of institutions adding one or more geography courses since 1941-42

MAP 9. The ratio of institutions adding one or more geography courses since 1941-42.

versities, many of them with war accelerated programs, or newly founded college geography departments, as are reflected in the largest figures.

The majority of the newly introduced courses have been war inspired. The impact of the war has made the government and

educators conscious of the facts that: (a) the philosophy of absolute nationalism or isolationism is geographically unsound, hence initial emphasis on Global Geography; (b) a knowledge of the geopolitical structure and philosophies of the World Powers is essential if we are to understand the conditions that make for war and peace, hence course additions in Economic and Political Geography; (c) special accelerated programs in geography beyond the basic facts and principles are indispensable to successful penetration and occupation of enemy territory, hence emphasis on Meteorology (especially aviation meteorology), Cartography, and special area studies. Tho the emphasis on certain aspects of these courses may change after the war, it is certain that much of the course material will be retained, being educationally quite as adaptable to peace time as to war time conditions.

### B. *Reported Contemplated Changes for the Future*

After having noted the trend of the changes in the recent past, we may now note the intentions of those institutions which have definitely commented on their contemplated future programs. Some 40 of these plan to introduce geography immediately in one form or another. Another 52 have indicated their intent to expand their present offerings. Twenty-three look forward to the organization of separate geography departments in the near future, a number of them divorcing geography from geology. Two of the schools contemplate the creation of combined Geology and Geography departments.

Excerpts directly quoting the questionnaire replies on future planning in college geography may prove helpful to those formulating new or revised college geography programs:

#### 1. Initial Courses Contempated

Our postwar planning committee is much interested in including subject matter in modern geography in several of our classes.

Our postwar plans envision offerings in this [geography] field.

Possibility of a course in geography being added by the history department.

Professor of Biology may offer a course in geography this fall.

A cultural course in general geography.

Integrated course in geography, history, and government.

Teaching of Geography for the Secondary School.

Political Geography as geopolitics.

A one-year course which would be required of all majors in social science and could be recommended for all minors in social science. This would be in addition to the 36 and 27-hour major and minor requirements.

## 2. Expansion of Present Geography Offerings

In the preceding table we have indicated the number of course additions in the past few years. Many of these resulted from the accelerated war training programs both for the general student body and for special training of the Army, Navy, and Air Forces. Curricular expansion also involves a change in emphasis on certain courses, reflecting the influence of the war on geographic thinking and post-war planning. The trend is illustrated by such reactions as the following:

Global geography to be emphasized.

Greater emphasis on meteorology and other aspects of geography concerning aviation.

Geopolitics

More stress on foreign relations.

More emphasis on the Orient and Europe.

Expansion to include South America and Far East.

Adding newer lower division course in map-reading and interpretation.

Expansion of offering and increased emphasis on geographer in teacher education curricula and general education.

We plan to offer more in (1) Social Science, (2) in Science.

We plan to enlarge our offering and organize in a single department under Natural Science.

## 3. New Departments—Personnel

Included in the expansion program are plans also for improving teaching and research facilities, of which the following remarks are representative:

We hope for sufficient increase in student body to enable us to establish a full time department of geography.

Geography has received considerable emphasis since 1942. Several thousand dollars have been spent on equipment for teaching and research. Special quarters were provided. Altho still technically in the Economics Department, geography is being developed for its own sake, not just as a service course. If it grows as expected after the war, we anticipate the establishment of a separate Department of Geography here in the College of Sciences and Arts.

I hope to induce the administration to create a geography department.

Head of Geology Department looks forward to increasing offerings in geography very definitely—either as a Department of Geology and Geography or as a separate department.

Possible separation between geography and geology.

Separate department from geology is being recommended by trustees and administration.

The awakening interest in geography has moved . . . to establish . . . a new depart-

ment uniting geography with government to make a new department of Government and Geography.

Unification of all courses in geography under a single head as soon as practicable.

We expect geography to be a most important subject when the war is over and are now making plans to increase our personnel, staff, and space in order to develop a real program.

### 4. New Laboratory and Field Study Facilities

A geographic laboratory is being equipped including map-making equipment, new types of visual aids added to present equipment, etc.

More laboratory work; additional field courses.

Outdoor conservation school next summer for in-service teachers. Course in Field Mapping and Survey.

Plan to enlarge the offerings to make possible graduate work toward Masters Degree in geography after the war.

More field work following the war—greater stress on graduate work—more stress on department research.

Department is expanding in size of student body as well as toward Ph.D. offering in near future.

### 5. Miscellaneous Plans for Introducing or Improving Geographic Instruction

A general social science major which will include courses in geography, economics, history, political science, and sociology.

Possibly geography may be put in a Social Science division.

Suggested that freshmen take geography courses.

We merely plan to urge departmental heads to require more geography of their majors.

Present incumbent worked into geography from geology. On his retirement he will be replaced by a Ph.D. in geography.

### 6. New Geography Programs in the Discussion Stage

[No changes are contemplated] until post-war needs are discovered and our full staff returns to the campus.

The matter is now being considered by our faculty curriculum committee.

A geography department has been suggested, but no action has been taken.

Changes have been made and others contemplated to conform to U. S. Commissioner of Education suggestions.

We are carefully studying the functions of the Arts and Sciences division, and we shall give full consideration to geography, particularly in view of the emphasis on geography because of the war.

## VI. Recommendations for Developing a Sound College Geography Program

**The surveys conducted for both the high school geography and college geography situations in the United States point to a number**

of deficiencies which, if corrected, should reduce appreciably the geographic illiteracy which has characterized our system of education in America.

### A. *College Geography Curriculum*

#### 1. The Minimum Curriculum Program

From this survey, it would appear that the greatest immediate need is the introduction into the numerous colleges now without geographic instruction of *a minimum geography curriculum of twelve semester hours,* the minimum basic course preparation recommended in the Geography Master Standards Pattern (Professional Paper No. 6) for high school geography teachers.

It is a demonstrable fact that colleges in the lowest enrollment rank of our college survey—400 to 500—can support and are supporting in numerous instances a much stronger program than this. And this is as it should be if we propose to teach prospective teachers and other students to think of world affairs in terms of land and life realities. It would seem, therefore, totally indefensible for institutions whose enrollments run into the thousands to have no geographic curriculum worthy of the name, or even none at all!

#### 2. General Set-up of Courses

Course offerings will be determined or evaluated in terms of both general and specific objectives. Considerations will be given first of all to the cultural value of geography for any and desirably all college students as a framework of areal reference to which the facts of the natural and social sciences can be intelligently and coherently related. This will ordinarily be provided by such courses as deal with the elements and principles of physical, human, and regional geography.

Specific objectives include course offerings to meet diverse student requirements:

a. A teaching geography minor and major, which should include professional courses in the Teaching of Geography, both the elementary and secondary school levels.

b. A school geography minor and major so organized that many students in the social sciences and natural sciences will want to select geography for their "second minor" or "second major."

c. Wherever possible, geography major and research programs will be developed with specialization in one branch of geography or

another professionally suited to positions to which they aspire. Geographers should be prepared to help "create" as well as to "respond to" opportunities for geographic service.

College administrators and geographers seeking guidance on the introduction or reorganization of college geography curricula will do well to consult Report No. 4 (Geography) of the government bulletin entitled "Adjustment of the College Curriculum to Wartime Conditions and Needs."[9] Tho, as the title suggests, this report is issued to meet the war emergency, the outline of geography curriculum and descriptions of the objctives and contents of particular geography courses are quite as applicable to fill peacetime needs. The committee which prepared this report is composed of an eminent staff of geographers appointed by the Association of American Geographers, the ranking professional geographical organization in this country.

### 3. Prescribed Geography Courses

College administrators and curriculum builders who fully recognize the educational value of geography in higher education will feel the urge of placing geography on the same functional level with that of other prescribed or required courses now in their graduation curricula, thus assuring an indispensable minimum of geographic training for college graduates.

Our survey indicates a sizeable number of schools which fall into this category. They may be classified functionally into five groups:

a. To meet graduation requirements:

At least one course in geography is required of all college or university students who intend to graduate.

Elements of Geography constant in all curricula. In addition, one regional geography and economic geography are required in Social Studies major.

Principles of Geography are required for all students.

Economic Geography and Principles of Geography required of all curricula.

Geography of North America for graduation from institution with a degree.

b. To meet specific state department and college department needs: In this category belong the various geography courses prescribed by many states in the preparation and certification of teachers of elementary and secondary school geography. Here are a few representative statements:

[9] This bulletin is published by the Federal Security Agency, U. S. Office of Education, Washington, D.C. Ask for Report No. 4 on geography by the above title.

All students required to take first two quarters Principles of Geography in any major subject in high school field except science and three quarters of geography required for this subject.

World Geography and geography of home state for elementary and rural; conservation for all Science and Social Studies majors and minors.

Elements of Geography required in all Teacher Education curricula.

Other college units in the university have also made geography prescriptions, such as:

General Geography required for freshmen in the College of Business. Economic Geography required in preparations of Law, Engineering, Journalism, Social Service.

c. To fit in with certain broad areas of curricular organization. Institutional example:

Principles of Human Geography for Social Science.

d. To fill major needs of non-geography departments: Institutional examples:

Human geography for all majors in history, economics, political science, sociology, and secretarial science.

Required in social studies major, economics major, and geology major.

Area Geography for majors in Modern Languages.

Agricultural Geography for Home Economics.

e. To meet special curricula requirements. Institutional examples:

European Geography required for International Affairs major.

Latin America for International Relations curriculum. Anglo-America for curriculum in America Culture and Institutions.

## B. *The Geography Indoor Workshop and Outdoor Laboratory As a Basis for Developing the "Unified Social Studies Approach to Geography."*

For the development of the "unified social studies approach to geography," the larger colleges may well consider advanced undergraduate and graduate teacher training programs of the indoor workshop and field study types.

Tho it be recognized that geography cuts across practically all the social and natural sciences, and tho it be further recognized that geography lends itself "naturally" to the interrelation of areal phenomena, it appears that something is needed besides the conventional course studies to realize the thinking processes necessary to building the integration concepts which the social studies people have in mind.

It may well be that the so-called "workshop" project method is one answer to the partial solution of this integration problem, providing there is enough basic knowledge of formal geography and of cognate subjects to make possible interconnections based on sound analytical and synthetic rationalizations. For indoors, under favorable conditions of bringing in staff members of various departments closely related to geography, it may possess the possibilities of a really "optimal environment" for the integration of interdepartmental knowledge of regional realities.

The "outdoor workshop" of the field trip, laboratory, or survey type has proven to be another effective way of realizing the aim towards achieving environmental integration of knowledge, besides stimulating the best form of geographic research. Conservation camps in which ecological relationships are stressed by natural and social science specialists may serve as a first hand experience at integration by the participating geography student.

### C. *Organization of the College Geography Department*

In spite of course offerings, geography training may fall far short of the goal unless there is the proper geographic organization.

#### 1. Competent Chairmanship

Schools of any size at all will want to consider the organization of a separate or joint geography department, regardless of whether or not certain courses in geography are now taught in separate departmental or divisional college units.

The department will be headed by a chairman who fully recognizes the need of a competent geography staff of teachers, and of adequate courses and facilities for teaching. Such a chairman will be sympathetic towards adapting college geography instruction to the needs of elementary and secondary school teacher training, as well as providing general and specialized instruction suited to the basic needs of both our citizenry and the profession of geography.

#### 2. A Functional Interdepartmental Affiliation

It is well for college administrators, and geographers also, to recognize that the strongest college geography departments in the country, numerically and professionally, are either those which have an exclusive divisional Social Science affiliation or are affiliated with both the Natural Science and Social Science divisions. In the former case all courses will ordinarily count towards meeting

Social Science credit requirements. In the latter cases certain courses which deal primarily with the physical aspects of geography are accredited to Natural Science, whereas the geo-social, geonomic, geo-historical, and geopolitical courses are Social Science electives which meet Social Science teaching and graduation requirements.

Whatever administrative arrangement may suggest itself in the way of satisfying local conditions best, authorities will want to consider every form of organization which will put geography in a position to make its distinctive contribution to the training of the secondary school geography and social science teacher, and in general to supply college students of historic and current events with background training to correlate the facts of the cultural with the physical world. To this end an inter-departmental seminar of the social science faculties may be organized in which the facts and principles of geography may be integrated with those of history, economics, political science, sociology, and anthropology. Students may thus gain a more unified picture of world events and world problems.

Here is an apparently successful way in which one institution attacks the issue:

> Our institution believes in co-operation between departments. For example: Background of current Latin American Problems is a course in which a geographer, an historian, and an economist sit in the class and take turns leading the discussion. . . . Credit . . . may be taken in the department of the student's choice. Probably half elect credit in geography.

## VII. Survey Presages a "Geographic Renaissance" in America

The Standards Committee of the National Council of Geography Teachers takes this occasion to express its deep gratitude to the college registrars, geographers, and others who may have assisted in supplying questionnaire data for this report. The genuine and generous spirit of cooperation indicated by the large percentage returns, often accompanied by supplementary remarks, seems a testimony itself to the widespread interest in solving our geographic illiteracy problem at the higher levels of instruction. The sentiment expressed in a remark by one of the respondents may well be said to be the key to the future success of a "geographic renaissance" in America: "Anything possible for our college to assist, call on us."

## ALISON AITCHISON RECEIVES THE DISTINGUSHED SERVICE AWARD IN GEOGRAPHIC EDUCATION

The Distinguished Service Award of the National Council of Geography Teachers for 1945 was bestowed on Professor Alison Aitchison, who for more than forty years has served on the Geography faculty of the Iowa State Teachers College, Cedar Falls, Ia. and who retired recently.

Her latest contribution to geography is contained in the Social Science Curriculum for the State of Iowa. Due to her leadership geography was made the core of this curriculum.

Altho retired from active duty, she has been traveling thruout Iowa, aiding teachers in carrying out the geography provisions of this new curriculum. For years her stimulating and inspiring classroom teaching has attracted strong teachers to the field of geography.

As President of the National Council of Geography Teachers in 1936 she brought much to the meeting of that year and to the accomplishments of the Council. As a pioneer member of the National Council she gave unsparingly to its building, and helped it to survive many critical days when survival was at stake. For two years she served on the Executive Committee.

Professor Aitchison's students now hold important positions on the geography faculties of many teachers colleges and universities. In voting the award to Professor Aitchison, a member of the committee on the Distinguished Service Award, now a leader in geography teaching, said, "She gave me my start."

When I was in charge of educational relations for the United States Soil Conservation Service, Professor Aitchison's vigorous and far-seeing sponsorship of the integration of soil conservation principles into the geography curriculum gave a real impetus to this important educational work in Iowa and among many of her colleagues and former students.

Professor Aitchison believes in field work and has studied foreign lands and our own United States "on the ground."

Her many educational publications have made rich contributions to the teaching of geography. The committee with great satisfaction voted the award to Professor Aitchison preeminently as a teacher and leader among teachers of geography.

HELEN M. STRONG, *Committee for the Distinguished Service Award, 1945, National Council of Geography Teachers*

# THE NATIONAL COUNCIL AT WORK

Members of the N.C.G.T. are urged to read carefully the reports of officers and committee chairmen as they are published in the JOURNAL OF GEOGRAPHY and to submit suggestions or reactions of approval and disapproval. An articulate membership is needed.

### *Collaboration with Educational Organizations*

A number of educational organizations other than the N.C.G.T. are interested in the teaching of geography and closely related fields. The N.C.G.T. should keep informed about all movements that advance geography in the schools of the country and should receive help and stimulation from the activities of fellow organizations. In addition, it should work with and thru such organizations as one important means of achieving its purpose, that of increasing the effectiveness of geography teaching.

Such collaboration has been carried on in the past by the Committee on Educational Relations. As reported in the Minutes of the December business meeting, this Committee has been discontinued and a system of coordinators established. In addition to the coordinators already announced, Mrs. Erna Grassmuck Gilland, California, Pennsylvania, has consented to renew her work in connection with the N.E.A.

We should like to know who among our members are also members of other organizations interested in phases of geographic education. Are any interested, for example, in the National Council on Elementary Science and the Association for Childhood Education?

### *The Committee to Answer Miscellaneous Inquiries*

Members are reminded that Dr. Zoe Thralls, University of Pittsburgh, Pittsburgh, Pennsylvania, serves as a very efficient committee of one to answer questions about sources of teaching materials, classroom procedures and other problems for which help is needed. All are welcome to send inquiries to Dr. Thralls. We would be happy to see her work grow so heavy she would need the services of a large committee.

### *The Membership of the Executive Committee*

A complete list of the members of the Executive Committee, both old and new, follows:

Term to expire 1946: J. Allen Tower, Birmingham-Southern College, Birmingham, Alabama; Alice Foster, University of Chicago, Chicago, Illinois; Alfred H. Meyer, Valparaiso University, Valparaiso, Indiana.

Term to expire 1947: Floyd F. Cunningham, State Teachers College, Florence, Alabama; Otis Freeman, University of Indiana, Bloomington, Indiana; J. R. Whitaker, George Peabody College for Teachers, Nashville, Tennessee.

Term to expire 1948: Loyal Durand, Jr., University of Tennessee, Knoxville, Tennessee; Cora Sletten, State Teachers College, Mankato, Minnesota; C. Langdon White, Stanford University, Stanford University, California.

KATHERYNE THOMAS WHITTEMORE, *President*

## INTEREST STIMULATING DEVICE

### The World's Raw Materials—A Review of Some Terms.

Many well known manufactured products come wholly or in a large part from less well known raw materials. Identify the manufactured form in which each of the following appears. The check list of finished products is given.

| *Raw Material* | *Manufactured Form* | *Raw Material* | *Manufactured Form* |
|---|---|---|---|
| 1. Abaca | ..... | 14. Galena | ..... |
| 2. Lac | ..... | 15. Hematite | ..... |
| 3. Angora goat hair | ..... | 16. Henequin (sisal) | ..... |
| 4. Bauxite | ..... | 17. Kaolin | ..... |
| 5. Cacao | ..... | 18. Pitch (pine) | ..... |
| 6. Casava (manioc) | ..... | 19. Pyrite (fool's gold) | ..... |
| 7. Chicle | ..... | 20. Quebracho | ..... |
| 8. Cinchona | ..... | 21. Jute | ..... |
| 9. Coal tar | ..... | 22. Sheep skin | ..... |
| 10. Coca | ..... | 23. Sturgeon roe | ..... |
| 11. Copra | ..... | 24. Poppy seed | ..... |
| 12. Flaxseed | ..... | 25. Tagua nut | ..... |
| 13. Flax fiber | ..... | | |

Porcelain—buttons—iron—linen—lead—cocaine—opium—chamois—aluminum—manila rope—lacquer—cocoanut oil—tapioca—burlap—mohair—quinine—caviar—turpentine and resin—chewing gum—tannin—binder twine—sulfuric acid—chocolate and cocoa—dyes—linseed oil.

W. O. BLANCHARD

# EDITORIAL NOTES AND NEWS

The Czechoslovak Information Service, 1790 Broadway, New York 19, New York, has a variety of material available free to schools that might be of interest to geography teachers. Included are a series of twenty pictorial posters, two map posters, a pictorial chart, a number of booklets, and films.

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A. G. E. Simmons, head of the Geography Department, State Teachers College, Fitchburg, Massachusetts, announces that the bibliography, "Material Aids for Use in the Teaching of Geography," is now available to teachers. The only cost is the mailing charge of twenty-five cents. Publishers of these aids include organizations and agencies engaged in manufacturing, transportation, communication, mining, engineering, farming, and various functions of government. The listed materials are topically arranged and briefly described. Most of the materials are free or nominal in cost. The list was compiled by the geography staff of the Fitchburg State Teachers College.

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The Inter-American Institute of Agricultural Sciences at Turrialba, Costa Rica, has been experimenting with coffee pulp as a possible cattle feed. Storage and mixture appears as feasible as that of other ensilages, and nutritional and roughage values are reported to be high. The disposal of this waste when the coffee berry is processed has imposed a sanitary problem when the pulp has been dumped in rivers. Its use as a fertilizer has not been popular.

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Peru continues to expand dock, airport, and trading facilities at Iquitos, Peruvian ocean port on the Amazon. Indicative of interest in public health are the remodeled hospital and clinic, the new public water supply, and extended sewers. The port's activities center on outgoing shipments of rubber, chicle, rotenone, tagua nuts, tropical hardwoods, and wild animal skins. Up-country accessibility was promoted when river vessels on various rivers above Iquitos could hook up with overland transportation afforded on the recently constructed highway from Callao-Lima to Pucallpa on the Ucayali River. Another coordination with Pacific coast routes is anticipated in the plan involving a highway from Chiclayo to the head of navigation on the Maranon River which is the Peruvian designation for the upper Amazon.

---

The continental shelf of the United States takes on added interest now that President Truman has proclaimed it an outright possession of the United States. What is this shelf and its limits? It is sometimes described as a sea-bottom plain, or submerged portion of the continent. Its width extends roughly from the shore line to the point where the seaward edge of the shelf drops off to the deep ocean basin. At this point the average depth of water on the shelf is 600 feet. The width of this shelf varies greatly being on the average least along the Pacific and greatest along the Arctic Ocean and the Atlantic. Along the Atlantic coast of the United States it usually varies from 50 to 100 miles. The area thus added to the United States including Alaska is about equal to three times the area of Texas. The shelf has the accumulation of layer after layer of sediments washed from the continental platform. The President's proclamation lays claim to the natural resources of the shelf and does not alter the free use of the waters above the shelf outside the traditional three-mile limit. Principal interest lies in the shelf's potential minerals, chief of which at present is oil.

Completion of the Volta Redonda steel plant in Brazil is progressing rapidly and production is expected to be well-advanced in 1946. Included in the new steel city are fifty-five coke ovens, a blast furnace, three open hearth furnaces, rolling mills, a boiler house, a power plant, by-products factories, mills to produce various types of steel, model homes, and facilities to provide the needs of the workers and their families, including a company-operated farm. The site of the plant is less than a hundred miles from Rio de Janiero on the Paraiba River. The latter has ample water supply for industrial and domestic needs. Volta Redonda is accessible by rail to the great industrial cities of Sao Paulo and Rio. Both rail and highway accessibility will be expanded. It is readily accessible by rail to the enormous high-grade iron ore deposits of Minas Gerais to the north which can also furnish the limestone and manganese. Some coal will come by a combination of water and rail transport from Santa Catarina, while other coal must be imported from overseas. The annual output of steel is expected to total 350,000 tons. This is almost double Brazil's present output which comes mainly from small, charcoal-operated plants, and is but a 100,000 tons short of its prewar imports. The plant is financed by Brazilian and American capital, constructed by Brazilian labor, and is being equipped with American machinery and tools. Only a few years ago, the site of the steel plant was but a sleepy village. It now envisions a population of 30,000.

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To make living safer and more comfortable in mosquito-infested jungles, research continues to be directed toward mosquito repellents as well as toward insecticides. The powerful insecticide, DDT, brings death, but its action may be too slow. So new repellents are being developed by various agencies including our Navy. One of the Navy's newest and most potent repellents is known as NMRI407, which is being tried out under field conditions in Guatemala. The repellent is used as a lotion and under laboratory tests has kept the mosquitoes at bay for five hours.

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The importance of fluorides in various chemical industries is focusing added interest in the cryolite deposit at Ivigtut, in southern Greenland. Cryolite is a double fluoride of sodium and aluminum. Altho its chief use has been in the metallurgy of aluminum, it is important in making glass, enamels, abrasives, and insecticides. In glass making, specified quantities of cryolite along with temperature controls will produce shades varying from dense opaque to opal and alabaster. In the making of glazes for ceramics, cryolite adds to the brightness of the colors as well as the opalescence of the glazes. New fluorine compounds are of increasing interest in many industries, including welding, electroplating, the manufacture of steel, and a catalyst in the production of high octane gasoline. Thus far Ivigtut is the only place where cryolite is obtained in a natural state in sufficient quantities for commercial exploitation. In 1942 and 1943 the United States took most of the Ivigtut production which was valued each year at about three million dollars. It is mined in an open pit, the wall of which is a short distance from the sea. Our supply of cryolite is not wholly dependent upon Ivigtut as it can be made from fluorspar. Fluorspar production is centered in Illinois and Kentucky.

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Iquitos, Peru, recently celebrated the opening of a new airport for the use of land planes. Due south of Florida, Iquitos hopes to be a center for planes routed southeast to Bolivia and Argentina, a terminus for moderate-sized-draft ocean vessels up the Amazon, and a terminus for river vessels operating upstream on the Ucayali River to Pucallpa. Pucallpa has highway connections with Lima. Iquitos also hopes to benefit

from river craft on the Maranon River which is being connected by highway with Chiclayo on the outlet to the Pacific. So far, the chief outgoing products are rubber, chicle, rotenone, taqua nuts, tropical hardwoods, and wild animal skins, mostly sent to the United States. Petroleum deposits in nearby fields are being explored and some production is already underway. Oil storage facilities are being built and a fleet of small tankers and barges move the Peruvian gasoline, kerosene, and diesel oil to various parts of Brazil. Rotenone is one of the most significant products coming out of Iquitos. Peruvian production of this valuable insecticide has almost doubled since our supply was cut off from the Far East. Other words used to designate rotenone include barbasco, timbó, and cubé.

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Research in the purification of water has led to the treatment of water electrolytically with silver. Only a small direct current and silver plates a few inches square are all that is needed. Thus it was found that 10 milliamps is sufficient to treat 1000 gallons of water an hour. It is reported that this method of purifying water was a large factor in supplying water to the 30,000 laborers employed in building roads in Assam and Burma.

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Several changes in the geography staff of some of our universities have been made in the past year. PRESTON E. JAMES, for the past four years with the Office of Strategic Services in Washington, D.C., and previous to that of the University of Michigan, has gone to Syracuse University. Another to join the staff of Syracuse University is RICHARD EDES HARRISON. He goes to Syracuse on a part-time basis. He has been engaged in professional cartography in New York and is particularly noted for his cartographic work in *Fortune Magazine* and in the "Fortune Atlas for World Strategy." Syracuse has a newly-organized, separate Department of Geography. GEORGE B. CRESSEY, Chairman of the Department, will return to it next year after a year at Stanford University where he is assisting in the development of a new Pacific-Asiatic-Soviet program.

Northwestern University has added two geographers to its staff: CLARENCE F. JONES, formerly of Clark University; and CLYDE F. KOHN, formerly of Harvard. Returning from military services are JOHN WESLEY COULTER who goes to the University of Cincinnati after a long-time association with the University of Hawaii, and SHANNON MCCUNE, who returns to Ohio State University.

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A special geography meeting was held last November in Chicago in connection with the meeting of the Central Association Science and Mathematics Teachers. Theme of the meeting was Geography and Aeronautics. Reported on the program was Brig. Gen. Arnold, Helen Turner of Oak Park-River Forest Township High School, and Clyde F. Kohn of Northwestern University.

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In the September issue of the JOURNAL OF GEOGRAPHY mention was made of the American Society for Professional Geographers and referring persons interested in the organization to communicate with F. Webster McBride. Since that issue appeared, Dr. McBride who is connected with the Smithsonian Institution has left to do field work in Peru. Those desiring to contact the Society may address William Van Royen, University of Maryland, College Park, Md., or George F. Deasy, 613 Notabene Drive, Alexandria, Va.

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Dr. Raisz of the Institute of Geographical Exploration, Harvard University, is an authority on cartography and author of the text, "General Cartography." He is keenly interested in geographic education and has made several contributions to the JOURNAL. His articles, "The Analemma" appeared in March, 1941, and "Our Lopsided Earth" in March, 1944.

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Dr. En-lan teaches geography at Ginling College, China. She took her Master's degree at Clark University and her Doctor's degree at Cambridge, England. Her article on "The Physical Setting of China," appeared in January, 1946.

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Miss Gaughan is an instructor in geography, East Boston High School and has the distinction of being the only teacher of an advanced geography course in Boston secondary schools. She is also a member of a committee for reorganization of the junior high school course of study.

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